

WHAT IS CLAIMED IS:

1. A semiconductor memory device comprising:
  - a memory array including at least a first area and a second area, which stores cell data;
  - 5 a data input circuit located closer to the first area than the second area, to which the cell data is input;
  - an error correction circuit which generates parity data for error correction from the cell data input to the data input circuit; and
  - 10 a control circuit which stores the parity data in the first area.
2. The semiconductor memory device according to claim 1, wherein the memory array includes a first
  - 15 memory unit and a second memory unit having the first area and the second area, respectively.
3. The semiconductor memory device according to claim 1, wherein the memory array includes a first data line connected to the first area and a second data line
  - 20 connected to the second area.
4. The semiconductor memory device according to claim 3, further comprising a switch between the first data line and the second data line.
5. The semiconductor memory device according to
  - 25 claim 1, wherein the memory array includes a common data line connected to both the first area and the second area.

6. A semiconductor memory device comprising:

a memory array including at least a first area and  
a second area;

5 a data input circuit located closer to the first  
area than the second area, cell data to be stored in  
the memory array being input to the data input circuit;

an error correction circuit which generates parity  
data for error correction from the cell data input to  
the data input circuit; and

10 a control circuit which stores the parity data in  
the first area and store the cell data in the second  
area.

7. The semiconductor memory device according to  
claim 6, wherein the control circuit stores both the  
15 parity data and the cell data in the first area and  
store the cell data not including the parity data in  
the second area.

8. The semiconductor memory device according to  
claim 6, wherein the memory array includes at least  
20 a first memory unit and a second memory unit each  
having the first area and the second area.

9. The semiconductor memory device according to  
claim 8, wherein the first memory unit has a first data  
line connected to the first area and a second data line  
25 connected to the second area, and the second memory  
unit has a first data line connected to the first area  
and a second data line connected to the second area.

10. The semiconductor memory device according to claim 9, wherein the first data line and the second data line are electrically connected to or disconnected from each other by a selection switch.

5        11. The semiconductor memory device according to claim 8, wherein the first memory unit and the second memory unit each have a common data line connected to both the first area and the second area.

10        12. The semiconductor memory device according to claim 1, wherein the memory array includes at least a first memory unit and a second memory unit each having the first area and the second area, and the semiconductor memory device further comprises a switching circuit which stores the parity data in the first area  
15        of one of the first memory unit and the second memory unit.

13. The semiconductor memory device according to claim 1, further comprising a data compensating circuit which error-corrects the cell data stored in the memory  
20        array using the parity data stored in the first area.

14. The semiconductor memory device according to claim 1, wherein a size of the first area is equal to or smaller than that of the second area.

25        15. The semiconductor memory device according to claim 6, wherein the memory array includes at least a first memory unit and a second memory unit each having the first area and the second area, and

the semiconductor memory device further comprises a switching circuit which stores the parity data in the first area of one of the first memory unit and the second memory unit.

5           16. The semiconductor memory device according to claim 6, further comprising a data compensating circuit which error-corrects the cell data stored in the memory array using the parity data stored in the first area.

10           17. The semiconductor memory device according to claim 6, wherein a size of the first area is equal to or smaller than that of the second area.